



State of Nevada – Department Of Personnel

CLASS SPECIFICATION

<u>TITLE</u>	<u>GRADE</u>	<u>EEO-4</u>	<u>CODE</u>
CHIEF BIOSTATISTICIAN	41	A	7.760
BIOSTATISTICIAN III	38	B	7.761
BIOSTATISTICIAN II	35	B	7.762
BIOSTATISTICIAN I	32	B	7.763

SERIES CONCEPT

Positions allocated to this series perform complex mathematical and statistical analysis on public health databases by applying statistical theories and principles to determine cause and effect relationships.

Develop, maintain and link databases; conduct health and population based studies and prepare statistical reports, forecasts and models.

Provide management with specific descriptive summaries and evaluations of numeric data that are necessary in developing public health policy.

Compile and analyze vital statistics for the State and prepare annual reports on the health of the citizens of the State.

Conduct comprehensive research and statistical analysis and evaluate the effectiveness of State programs for health care; identify appropriate questions and design the research methodology to produce the desired results.

Compile a variety of statistical data and prepare numerous statistical reports relating to disease and health in the State; conduct the epidemiological study of cancer data currently collected and maintained by the State Cancer Registry and other data repositories such as trauma registry, records of open heart surgery, and vital statistics (birth and death); perform follow-up analyses where necessary; and publish comprehensive documented reports of study results.

Conduct behavioral risk factor surveys in accordance with accepted methods and principles of random sampling, survey design, and evaluation of study results.

Provide recommendations to the State Board of Health, Health Division Administrator, State Health Officer and others regarding statistical findings and provide advice related to various statistical matters as required.

Provide technical assistance and advice on the application of statistical methods.

Perform related duties as assigned.

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CLASS CONCEPTS

Chief Biostatistician: Under administrative direction, the incumbent plans, organizes and directs the Division's Center for Health Data and Research; serves as the highest level technical expert in biostatistical research studies and methodologies for public health programs; and functions as the principal consultant to advise program management on data for decision making. The incumbent develops long range statistical forecasting and modeling of health indicators for the State; develops statistical and analytical programs to evaluate the effectiveness of State programs for health care; identifies health problems which require research and resolution; and responds to requests of the administrator for specialized data and information. The incumbent also prepares grant proposals including the research methodology to be utilized; coordinates projects; devises data collection methods; defines project parameters and statistical methodology; cooperates with other agencies and organizations in the compilation of information; and sets project priorities and allocates resources. The Chief Biostatistician supervises professional staff such as Biostatisticians and Health Resource Analysts; coordinates work unit activities; supervises and evaluates the performance of subordinates; implements corrective action and discipline; and ensures compliance with standards of quality, quantity, timeliness and cost.

Biostatistician III: Under general supervision, the incumbent has primary responsibility for the Center's data warehouse and linkage unit; ensures quality control measures are applied to all databases; monitors data connection activities; directs statistical and analytical activities applied to the databases in the data warehouse; prepares statistical reports based upon analysis of the data; serves as an assistant to the Chief Biostatistician; and provides technical support regarding theories, applications, statistical methodology, data analysis, database management and database linkage to staff within the bureau and to other division personnel. In addition, the incumbent supervises the work of lower level Biostatisticians to include responsibility for training, developing work performance standards, evaluating performance, and recommending disciplinary action.

Biostatistician II: Under general supervision, incumbents perform the full range of duties described in the series concept, and conduct statistical analysis by gathering data from various sources using computer software. Incumbents analyze a variety of health and population data, linking and matching databases; gather, compile and analyze physical, behavioral, social and cultural research and statistical data; prepare questionnaires and forms for gathering raw data and present data in graphic, pictorial and tabular form using descriptive statistics for measures of central tendency, dispersion and trend; analyze and interpret the significance of raw data and the validity and reliability of survey/study findings; prepare or assist in the preparation of research and project reports. This is journey level in the series.

Biostatistician I: Under direct supervision, incumbents receive training in performing the duties described in the series concept. This is the entry level in the series, and incumbents may progress to the next level upon meeting the minimum qualifications and with the approval of the appointing authority.

MINIMUM QUALIFICATIONS

CHIEF BIOSTATISTICIAN

EDUCATION AND EXPERIENCE: Doctoral degree in statistics, biostatistics, mathematics or closely related field and three years of professional experience in planning, organizing, overseeing and implementing multiple programs dealing with vital statistics, behavioral risk surveillance analysis, demography and epidemiology using various types of statistical software, one year of which must have been in a supervisory capacity; **OR** an equivalent combination of education and experience.

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MINIMUM QUALIFICATIONS (cont'd)

CHIEF BIOSTATISTICIAN (cont'd)

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Detailed knowledge of: research methods in modern probability, statistical theory and their applications; principles and practices of biostatistics as described in current statistical research literature; various types of statistical software. **Working knowledge of:** current public health terminology; demography and epidemiology; census and registration systems; supervisory principles and practices. **Ability to:** analyze and interpret complex data; plan and coordinate the collection, compilation and analysis of public health statistical data; speak effectively on a one-to-one basis and in public; write concise, grammatically correct, business correspondence and technical reports; *and all knowledge, skills and abilities required at the lower levels.*

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: division, State and federal rules and regulations, policies and procedures related to vital statistics. **Ability to:** plan, organize, oversee, coordinate, and implement multiple programs or areas of responsibility which include behavioral risk surveillance analysis, data utilization and enhancement, HIV/AIDS, and quality control; establish and maintain cooperative relationships with various agencies and research organizations; maintain professional relationships with statistical groups in other research organizations and institutions; develop feasible, constructive courses of action for the solution of statistical problems; prepare and present research findings and reports to the administrator, staff, and the public; explain and interpret complex statistical concepts and advanced research methodologies.

BIOSTATISTICIAN III

EDUCATION AND EXPERIENCE: Master's degree from an accredited college or university in statistics, mathematics or closely related field and two years of professional experience linking data elements in a comprehensive data warehouse, monitoring data connection activities and preparing statistical reports based upon analysis of data; **OR** a Bachelor's degree from an accredited college or university in statistics, mathematics or closely related field and three years of experience in biostatistics linking data elements in a comprehensive data warehouse, monitoring data connection activities and preparing statistical reports based upon analysis of databases; **OR** two years of experience as a Biostatistician II in Nevada State service; **OR** an equivalent combination of education and experience.

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Detailed knowledge of: theoretical basis for statistical research methods, techniques and their applications; capabilities and limitations of tabulating and calculating data; database management and data linkages. **Working knowledge of:** demography and epidemiology principles and practices; various types of statistical and database management software; *and all knowledge, skills and abilities required at the lower levels.*

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: database management, data linkage, data analysis and statistical reporting. **General knowledge of:** current public health terminology. **Ability to:** comprehend, modify and apply new techniques contained in current statistics literature to research public health policy issues; perform analysis of public health issues and developments; prepare and present research reports based on analysis of statistical evidence; explain statistical concept to other statisticians and non-statisticians; assign and review work, conduct work performance evaluations, and provide training.

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MINIMUM QUALIFICATIONS (cont'd)

BIOSTATISTICIAN II

EDUCATION AND EXPERIENCE: Bachelor's degree from an accredited college or university in statistics, mathematics or closely related field and one year of professional experience conducting statistical analysis by gathering data from various sources using computer software; **OR** one year of experience as a Biostatistician I in Nevada State service; **OR** an equivalent combination of education and experience.

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Working knowledge of: probability, statistical techniques and their applications; capabilities and limitations of tabulating and calculating data; various methods of presenting statistical data; operation of computers and appropriate biostatistical software packages; theoretical basis for statistical research methods, techniques and their applications. **Ability to:** communicate effectively both orally and in writing; accurately present qualitative and quantitative information both orally and in writing; establish and maintain effective working relationships with associates, other public agencies and private entities; *and all knowledge, skills and abilities required at the lower level.*

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: current public health terminology; theoretical principles used in estimation and hypothesis testing, analysis of variance and co-variance, fitting of regression curves, probability and experimental design; database management and data linkages. **General knowledge of:** demography and epidemiology principles and problems. **Ability to:** comprehend, modify and apply new techniques contained in current statistics literature to research public health policy issues.

BIOSTATISTICIAN I

EDUCATION AND EXPERIENCE: Bachelor's degree in statistics, mathematics or closely related field; **OR** an equivalent combination of education and experience.

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Working knowledge of: fundamental research and statistical techniques; theoretical basis for statistical research methods. **General knowledge of:** survey, sampling and research design techniques; statistical theories and principles; operation of computers and appropriate statistical software packages. **Ability to:** learn complex research and statistical analysis methods and processes specific to biostatistical data and studies; compile, assemble and analyze data; apply analytical thinking to specific problems; communicate effectively both orally and in writing.

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: probability, statistical techniques and their applications; capabilities and limitations of tabulating and calculating data; various methods of presenting statistical data; current public health terminology; theoretical principles used in estimation and hypothesis testing, analysis of variance and co-variance, fitting of regression curves, probability and experimental design. **General knowledge of:** demography and epidemiology principles and problems. **Ability to:** accurately present qualitative and quantitative information both orally and in writing; establish and maintain effective working relationships with associates, other public agencies and private entities.

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This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards for positions assigned to this class.

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ESTABLISHED:	12/14/89PC	10/18/01R 5/6/02UC	10/18/01R 5/6/02UC	10/18/01R 5/6/02UC
RE-ESTABLISHED:	7/1/93R 9/27/93UC			
REVISED:	10/18/01R 5/6/02UC			